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| 09/331,729      | 08/26/1999  | FRANK OSAN           | 514425-3732         | 2014             |

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| EXAMINER |
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NOTE, JANIS L

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| ART UNIT | PAPER NUMBER |
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1756

DATE MAILED: 02/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                    |  |
|------------------------------|--------------------------------------|------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/331,729 | <b>Applicant(s)</b><br>OSAN ET AL. |  |
|                              | <b>Examiner</b><br>Janis L. Dote     | <b>Art Unit</b><br>1756            |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10/14/03 (cert. mail. 10/8/03).
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 35,36,38,39,41-53,55,56 and 58 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 48 and 53 is/are allowed.
- 6) ☒ Claim(s) 35,36,38,39,41-47,49-52,55,56 and 58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)          |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. <u>OF 10/8/03</u>                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

1. The examiner acknowledges the cancellation of claims 40, 54, and 57, and the amendments to claims 35, 36, 39, 42, 44, 48, 49, 55, and 56 filed on Oct. 14, 2003 (cert. mail. Oct. 8, 2003) (Amdt101403). Claims 35, 36, 38, 39, 41-53, 55, 56, and 58 are pending.

2. The objections to the specification set forth in the office action mailed on Jul. 8, 2003 (CTNF070803), paragraph 6, have been withdrawn in response to the amended paragraph beginning at page 17, line 18, of the specification, and amended Tables 1 and 3 of the specification, filed in Amdt101403.

The rejections of claims 39, 40, 42-45, and 48 under 35 U.S.C. 112, second paragraph, set forth in CTNF070803, paragraph 9, have been withdrawn in response to the amendments to claims 39, 42, 44, and 48, and the cancellation of claim 40.

The rejections of claims 36, 42, 43, and 55-57 under 35 U.S.C. 112, first paragraph, set forth in CTNF101403, paragraph 11, have been withdrawn in response to the amendments to claims 36, 42, 55, and 56, and the cancellation of claim 57.

The objections to claims 39 and 40 set forth in CTNF101403, paragraph 12, have been withdrawn in response to the amendment to claim 39 and the cancellation of claim 40.

The rejections of claims 35, 36, 44, 45, 49, 55, and 58 under 35 U.S.C. 102(a) over WO 97/05529 (WO'529), as evidenced by applicants' admission at page 21 of the instant specification and the American Chemical Society (ACS) File Registry No. 361391-57-3; and of claims 38, 39, 40, 41, 46, 47, 54, and 57 under 35 U.S.C. 103(a) over WO'529, as evidenced by applicants' admission at page 21 of the instant specification and the American Chemical Society (ACS) File Registry No. 361391-57-3, alone or combined with the other cited references, set forth in CTNF101403, paragraphs 15-19, have been withdrawn in response to the amendments to claims 35 and 49 and the cancellation of claims 40, 54, and 57. WO'529 has been removed as prior art, because applicants have perfected their claim to foreign priority for the subject matter recited in instant claims 35, 36, 38, 39, 41, 44-47, 49, 55, and 58. The verified English-language translation of the priority document Japanese Patent Application Hei 8-348546 filed on Nov. 4, 2002 (FRTRANS110402), provides antecedent basis as set forth under 35 U.S.C. 112, first paragraph, for the subject matter recited in instant claims 35, 36, 38, 39, 41, 44-47, 49, 55, and 58.

3. The disclosure is objected to because of the following informalities:

(1) The specification at page 4, lines 22-23, discloses a polyolefin resin having a cyclic structure having a heat distortion temperature (HDT) as measured by the DIN 53461-B method of 70°C or higher. However, the instant specification does not define the standard DIN 53461-B, nor the experimental conditions under which the HDT is determined. Furthermore, the specification does not disclose the date of the particular version of the standard that was used.

The determination of HDT is essential matter, since it is necessary to describe and enable the instant claimed subject matter. Essential subject matter must be disclosed in the specification as filed.

Applicants are reminded that essential subject matter cannot be incorporated herein by reference to non-patent literature, but must be fully disclosed in the specification as filed. MPEP 608.01(p)A, 8<sup>th</sup> edition, Feb. 2003.

(2) The specification at page 25, lines 1-2, refers to Examples 20 to 30 and Comparative Examples 5 and 6. However, amended Tables 1 and 3 filed in Amdt101403 do not list said examples.

Appropriate correction is required.



4. The examiner interprets the term "liquid dried system" recited in claim 53 as referring to a liquid toner that comprises toner particles that are obtained by a dry polymerization method, which forms toner particles by interfacial polymerization. See instant specification, Toner preparation method 4 at page 17. Applicants in their response filed on Dec. 12, 2000 (Amdt121200), page 9, lines 4-5, agree with the examiner's interpretation of the term "liquid dried system."

5. The examiner notes that the specification defines the intrinsic viscosity recited in instant claims 35, 48, 49, and 56 as the "inherent viscosity" at 135°C for 1 g of polyolefin resin having a cyclic structure uniformly dissolved in 100 ml of decalin. See the instant specification, page 16, lines 2-4.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 35, 36, 38, 39, 41-47, 49-52, 55, 56, and 58 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 35, 49, and 56, and claims dependent thereon, are indefinite in the limitation "a heat distortion temperature [HDT] as measured by the DIN 53461-B method of 70 °C or higher" because it is not clear what is the scope of the limitation. The instant specification does not define the standard DIN 53461-B. The instant specification does not disclose the conditions and criteria used in the standard to determine the HDT, not does it disclose the date or version of DIN 53641-B that was relied on in the specification. Standards can and do change over time: hence it is not clear what version of DIN 53461-B was used, nor what version is intended in the claims.

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 35, 36, 38, 39, 41-47, 49-52, 55, 56, and 58 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Instant claims 35, 49, and 56, and claims dependent thereon, recite a resin having "a heat distortion temperature [HDT] as measured by the DIN 53461-B method of 70 °C or higher."

However, the instant specification does not disclose adequately how the experimental parameter is determined. The specification at page 4, lines 22-23, merely discloses HDT as measured by the DIN 53461-B method. The specification does not disclose what is the DIN 53461-B method, nor what version or date of the standard was used. Furthermore, the organizations implementing the standard DIN 53461-B have the authority to modify it, so any connection the instant claims may have to this standard, as recited, may vary over time. If the standard were to change, the disclosure would no longer support the claim limitation, and therefore the claim limitation would not be enabled.



Accordingly, it would require undue experimentation for a person having ordinary skill in the art to determine the experimental parameters needed to obtain the instant claimed numerical range.

10. Claim 47 is objected to because of the following informalities:

The typographic error "he" should be corrected to - The --.  
Appropriate correction is required.

11. Applicants are advised that should claim 36 be found allowable, claim 58 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim.  
See MPEP § 706.03(k).

12. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

13. Claims 50-52 are rejected under 35 U.S.C. 102(a) as being anticipated by WO 97/05529 (WO'529), as evidenced by applicants' admission at page 21 of the instant specification and the American Chemical Society (ACS) File Registry No. 361391-57-3. See the PTO translation of WO'529 for cites.

WO'529 discloses a toner that is within the compositional limitations of the instant claims. The toner comprises a binder resin, charge control agent, a magenta pigment, and a functional imparting agent, such as HOECHST WAX E. See Toner preparation method I at page 11, and Example 2 of Table 2-1 at page 13. The binder resins in Example 2 are as follows:

Example 2 - a polyolefin resin having a cyclic structure comprising polyolefin T745 and the polyolefin having a cyclic structure S-8007, which has a Mn of 35,000, Mw of 70,000, a heat distortion temperature determined by the DIN53461-B method of 70 °C or higher, and an intrinsic viscosity of 0.8 dl/g, in an amount of 33% by weight of the entire binder resin. See Table 3. The polyolefin resin T745 is identified by the instant specification at page 21 as a copolymer of ethylene and norbornene, which is within the compositional limitations of the polyolefin having a cyclic structure recited in instant claims 50-52. The polyolefin S-8007 is within the second resin compositional limitations recited in instant claim 50.

ACS File registry No. 361391-57-3 identifies Hoechst wax E as butylene and ethylene esters of fatty acids, montan-wax.

Applicants' arguments filed in Amdt101403 have been fully considered but they are not persuasive. Applicants argue that WO'529 is not prior art. Applicants assert that they have perfected their claim to foreign priority under 35 U.S.C. 119, by filing a verified English-language translation of the priority document, Japanese patent application Hei 8-348546, filed on Nov. 4, 2002 (FRTRANS110402). Applicants argue that the translation provides antecedent basis for the subject matter recited in the instant claims.

The translation does not provide an adequate written description of the subject matter recited in instant claims 50-52, as required under 35 U.S.C. 112, first paragraph.

1) The translation does not disclose that the polyolefin resin having a cyclic structure is a copolymer of an acyclic olefin and the generic "cyclic and/or polycyclic compound having at least one double bond" as recited in the instant claims 50. Rather, the translation discloses that the polyolefin is a copolymer of an acyclic olefin, and "an alicyclic compound (cycloolefin) having double bonds, such as cyclohexane [sic: cyclohexene] or norbornene." See the translation, page 7,

lines 4-6. The term "polycyclic compound" is broader than "norbornene" disclosed in the translation, because it includes polycyclic olefin compounds that are not norbornenes such as dicyclopentadiene.

2) The translation does not disclose the polycyclic compounds "tetracyclododecene" and "dicyclopentadiene" recited in instant claim 52. Rather, the translation only discloses the cyclic olefin "norbornene." See the translation, page 7, line 6.

Thus, the subject matter recited in claims 50-52 are not entitled to the benefit of priority under 35 U.S.C. 119. Accordingly, the rejection over WO'529 stand.

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claims 35, 36, 44-47, 49, 55, and 58 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 6,210,852 B1 (Nakamura' 852).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of Nakamura' 852 render obvious a toner as recited in the instant claim.

Nakamura' 852 claims a toner comprising a binder resin, a function imparting agent, a colorant, and a charge control agent. The binder resin comprises a first polyolefin having a cyclic structure having a number average molecular weight (Mn) of 7,500 or less and a second polyolefin having a cyclic structure having a Mn of 7,500 or more, a weight average molecular weight (Mw) of 15,000 or more, and an intrinsic viscosity of 0.25 dl/g or more. See reference claim 5. The amount of the second polyolefin is less than 50% by weight of the entire binder resin. See reference claim 5. The binder resin is within the compositional and viscosity limitations recited in instant claims 35, 36, 49, 55, and 58, but for the heat distortion temperature of the second binder resin recited



in the instant claims. Reference claim 4 recites that the function imparting agent can be a combination of a fatty acid amide, oxidized polyethylene wax and polyethylene wax. See reference claim 4. The combination of waxes is within the compositional limitations recited in instant claims 44-47.

As discussed above, the reference claims do not recite that the second resin has a heat distortion temperature as measured by the DIN 53461-B method of 70° C or higher as recited in the instant claims. However, as discussed above, the second binder resin meets the compositional limitations and viscosity limitations recited in the instant claims. In addition, the second resin is used as a toner binder resin, the same purpose as the second resin recited in the instant claims. Thus, it is reasonable to presume that the second resin recited in the reference claim 5 of Nakamura' 852 has the heat distortion temperature of 70°C or higher as recited in the instant claims. The burden is on applicants to prove otherwise. In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCOA 1980).

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in the claims of Nakamura' 852, to make and use a toner that is within the compositional limitations recited in the instant claims

because that person would have had a reasonable expectation of successfully obtaining a toner capable of developing an electrostatically charged latent image.

16. Claims 35, 36, 38, 39, 41, 46, 47, 49, 50, 51, 55, and 58 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 16-19 and 21-27 of copending Application No. 09/000,330 (Application' 330) in view of Diamond, Handbook of Imaging Materials, p. 170, and US 5,707,772 (Akimoto).

This is a provisional obviousness-type double patenting rejection.

Application' 330 claims a toner comprising a colorant, a charge control agent, and a binder resin. The binder resin comprises a polyolefin copolymer having a cyclic structure. Said polyolefin copolymer comprises a first resin having a number average molecular weight (Mn) of 3000 to 7500, and a second resin having a Mn of 7,500 to 50,000, a Mw of 15,000 to 100,000, a heat distortion temperature measured by DIN53461-B of 70 °C or higher, and an intrinsic viscosity of 0.25 dl/g or more. The copolymer is derived from an alpha-olefin, an alicyclic compound having a double bond, and optionally a diene monomer. The amount of the second resin is not more than 50% by weight of

the entire binder resin. See reference claim 22/(18). The amount of not more than 50% by weight meets the limitation of less than 50 wt% recited in instant claims 35, 49, and 55. Thus, the binder resin is within the compositional limitations recited instant independent claims 35 and 49 and in instant dependent claims 36, 50, 55, and 58. Reference claim 21 further requires that the alpha-olefin is ethylene, which meets the limitation recited in instant dependent claim 51. Reference claim 24 recites that the polyolefin having the cyclic structure comprises a functional group selected from the group consisting of a carboxyl group, a hydroxyl group, and an amino group, which meets the limitation recited in instant dependent claim 38. Reference claim 25 recites that the polyolefin having a cyclic structure further comprises a carboxyl group and is crosslinked by metal ions or dienes. Said polyolefin meets the limitations recited in instant dependent claims 39 and 41.

The claims of Application' 330 do not recite the presence of a function imparting agent as recited in instant claims 35 and 49. However, the use of a function imparting agent is well-known in the toner art. Diamond discloses that it is well-known to incorporate a low molecular weight polyethylene or polypropylene wax into the toner to improve the flow of the

toner at temperatures sufficient for toner fusing. Diamond,  
p. 170, lines 18-20.

Akimoto teaches low molecular weight polyolefin waxes that have a melting point between 70 and 150°C. Col. 8, line 66, to col. 9, line 5; and releasing agents 1 to 4 in Table 1 at col. 12. The polyolefin waxes are synthesized in the presence of a metallocene catalyst. Col. 11, lines 52-67. Akimoto discloses that toners that comprise said polyolefin waxes as releasing agents provide excellent images with excellent storage stability, little off-set, and "slight winding phenomena." See Toners 1 through 7 in Tables 2 and 3, and col. 16, lines 17-18.

It would have been obvious to a person having ordinary skill in the art, in view of the subject matter recited in the claims of Application' 330 and the teachings of Diamond and Akimoto, to incorporate Akimoto's low molecular weight polyolefin wax in the toner recited in the claims of Application' 330 because that person would have had a reasonable expectation of successfully obtaining a toner that provides excellent images with excellent storage stability, little off-set, and "slight winding phenomena," as disclosed by Akimoto.

17. Applicant's arguments filed in Amdt101403 did not address the obviousness-type double patenting rejections set forth in paragraphs 15 and 16 above. Accordingly, the rejections stand.

18. Claims 48 and 53 are allowable over the prior art of record.

WO'529 does not teach or suggest a toner comprising a polyolefin having a cyclic structure comprising at least three resins or resin fractions as recited in instant claim 48. Nor does WO'529 teach or suggest a liquid dried polymerized system as recited in instant claim 53. Nor do the claims of Nakamura'852 or Application' 330 recite a toner as recited in instant claim 48 or a liquid toner as recited in instant claim 53.

19. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any



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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (703) 872-9306.

Any inquiry of papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

JLD

February 4, 2004

  
JANIS L. DOTE  
PRIMARY EXAMINER  
GROUP 1500  
1700